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Growing Plants in Rooms.—II.

Our former article was confined to the consideration of the *conditions* under which plants may be successfully grown in rooms, and we trust that some light was thrown on the subject. The mention of light, however, reminds us that we omitted to say any thing about light; an omission that we will now supply. Light, the warm, vivifying light of the sun, is so necessary to the health of plants, that nothing will compensate for its absence. No plant that is grown in a room can receive too much of it. Let it stream in, therefore, through every pane, unobstructed by curtain or blind, that it may revel among the plants to which it gives life and beauty.

Some windows, of course, are better than others. The best of all is that which faces the south, since it receives the sun longest. The next best is that which faces the southeast or east. The next, west; and the least desirable of all is one that faces the north. The larger the window, the better. It should not be under a piazza or verandah, or the plants will inevitably grow spindly and weak. If in the city, a window on the second or third floor is better than one on the first, since it will receive more light. A bay is the best of all windows, as it is the lightest of all. A bay, indeed, may be inclosed so as to form a receptacle for plants but little inferior to a green-house. We wonder that this is not often done. A moist air would thus be obtained for the plants, and the sun would ordinarily furnish sufficient heat. When this was not the case, and especially at night, the inclosing sashes or doors might be thrown open, and the plants would receive the warmth of the room. Outside shutters or blinds would be very desirable, to be used at night. We may illustrate a bay of this kind hereafter. Of whatever kind the window may be, provide for and admit all the light that is possible.

Let us now pass to the second cause of failure, *improper selection of plants*. This has more to do with the want of success in growing plants in rooms than is generally supposed. It is not to be expected that an inexperienced person should be able to make a judicious selection of plants for this purpose; neither is it to be expected that the florist should always be right in his

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recommendations; in fact, he is sometimes wrong, though his knowledge will enable him to say rather what will not do than what will. Of the many lists of plants that we have seen recommended for rooms, very few indeed are free from serious objection. This arises chiefly from the fact that these lists have been mostly prepared by persons who have had no experience in the room culture of the plants they recommend. We do not say this of all, because we know better. If we could command in a room the same conditions that obtain in a greenhouse, it would be safe to recommend the same plants for both; but these conditions are by no means the same in both; and that all plants do not succeed equally well in both is a fact within the experience of every man and woman who has ever grown plants in a room. At the time we grew plants in a room, we went through the whole catalogue of plants, and may therefore be supposed to know something about them. We mention this fact, simply that the reader may understand why we speak so confidently.

We now propose to present a brief list of plants which we know to be well adapted to room culture. It will comprise only those which we have grown well and with comparative ease, but most of which we have seen others grow well under similar conditions. It may be stated in general terms, that plants that require a very humid atmosphere, such, for instance, as Caladiums, Begonias, (the Rex family,) Marantas, &c., will not do well in rooms, except they are inclosed in a case; while, on the other hand, those that delight in a warm, dry air, such as Cacti, Mammillaria, &c., do finely. There is a class of plants that come in between these, that also do well. The Camellia is often recommended as a good room plant; but it is by no means such, being grown there with the utmost difficulty. We have seldom or never seen a well-grown Camellia in a room.

We think we shall place at the head of the list, in view of the large satisfaction it yields, the *Azalea*, one of the gayest and most beautiful of flowers. All the *Cacti*, *Epiphyllums*, *Mammillaria*, *Aloes*, *&c.*, do well in rooms. All are singular in their forms and growth, and many produce large and brilliant flowers. In this class is included the Night-blooming Cereus. The *Calla* is also a good room plant, and so is the *Hyacinth*, *Crocus*, *Narcissus*, *Tulip*, *Ixia*, *Babiana*, *Oxalis*, *Lachenalia*, and most other bulbs, not forgetting the *Cyclamen*, one of the best of them all. Here, too, must be placed the *Laurustinus*, and also, but not quite so good, the *Pittosporum*. Better than the last, but much neglected, is the *Coronilla*, with its pretty yellow, pea-like blossoms. The *Heliotrope* does very well near the light, and is indispensable for its grateful fragrance. So, also, is the *Daphne*, but it is not so easily grown. And while among the fragrant flowers we must not forget the *Gardenia*, *Orange*, *Lemon*, *Magnolia fuscata*, and *Carnation*. The *Scarlet* and sweet-scented *Geraniums* are nice room plants, and easy to grow, but the *Pelargonium* is not. The latter may be flowered after a manner; but a small truss of bloom on a long, spindly shoot is far from attractive. Just here very naturally come in the *Cuphea* and *Bouvardia*, the former an admirable room plant of the easiest culture. Alike beautiful and easy to manage is the *Chinese Primrose*. Its proper place is the front of the table, where its white and purple flowers will cheer us all winter long. For the back of the table we can have *Abutilon striatum*, a tall growing plant, with large pendent flowers. For a middle position, nothing is better than the *Chorozema*, with its handsome pea-like flowers. The *Bridal Rose* (Rubus) is another desirable plant, resembling a Raspberry, with double white flowers.

A few climbers will be needed, and these may be found in *Passiflora cærulea*, a singular and beautiful flower, the best of its class for a room. The *Wax Plant*, (*Hoya*,) a curious, but by no means sweet-scented flower. We may also add *Maurandya Barclayana*, with showy tubular

flowers of a bluish white color. The *Kennedya Marryattæ*, with scarlet, pea-like flowers, also does very well.

But a collection of plants would hardly be perfect without the *Rose*. Fortunately, there are a few that do well in rooms. These may be mostly found among the Tea Roses, such as *Goubalt*, *Bougere*, *Leveson Gower*, and others. Of Bourbon and China Roses, *Hermosa*, *Malmaison*, *Queen*, *Phœnix*, *Daily*, and *Agrippina*, are the best, and bloom finely. The Hybrid Perpetuals do not grow very well in rooms. The best that we have tried is old *La Reine*.

There are many annuals and biennials that do well, the following being some of the best: *Mignonnette*, always a favorite for its delightful fragrance. *Sweet Alyssum*, a sweet, modest little plant, with small white flowers, that smell like new honey. *Lobelia*, (gracilis, erinus, speciosa, ramosa, etc.,) a charming room plant, producing masses of beautiful little blue flowers. *Candytuft*, (Iberis,) a very desirable plant, with flowers from purple to white.

There are several hardy plants that bloom finely in pots, and are extensively used in this way by florists. They bloom nearly or quite as well in a room as they do in the green-house. Some of the best of these may be noticed. *Spiræa prunifolia*, when in bloom, is a complete mass of white, with its tiny double flowers. Not less beautiful is *Spiræa Reevesiana*, both the double and single. If the double-flowering *Dwarf Almond* be placed between these, a very pleasing contrast is produced. The *Deutzia gracilis* is a beautiful dwarf shrub, covered with handsome little white bell-shaped flowers. The *Dielytra spectabilis* is a charming herbaceous plant, resembling a Pœony in growth, and bearing long racemes of singular but beautiful flowers, very inappropriately called by some, Bleeding Heart. There is also an old but little known plant, named *Daphne cneorum*, a small, low growing evergreen shrub, highly prized for the beauty and fragrance of its bright pink flowers.

We close the list for the present, though there are not a few other plants that may be added that are nearly, if not quite as good for room culture; but we do not think we should add more to the list of hardy shrubs, except it be the *Weigela rosea*.

PLANT HOUSES.—XI.

BY THE EDITOR.

We present this month an illustration of a house which we designed some three years since, and which has given no little satisfaction. It is a propagating and forcing house combined, and has fully answered the purpose for which it was designed. It is not of large size, being only 30 feet long and 20 feet wide; but its capacity for work is greater than its dimensions would lead one to suppose.

Fig. 1 is a perspective view, from which the reader may infer that it is a very neat and well-proportioned house. It has a fixed curvilinear roof laid in aquaria cement, the best material for glazing that we have yet seen. There are no side lights, but the stone foundation is built up above ground, terraced, and sodded, which sets the house up, and avoids what is called a "squatty" appearance.

Fig. 2 is the ground plan. The house runs east and west, the object being to use the north side for propagating purposes. A room is partitioned off at the east end for a boiler pit, seed room, etc., and is fitted up with potting table, drawers, shelves, and a writing desk. The boiler pit is partitioned off by itself, as shown in the plan. In the center of the house is a large bed, in which plants of various kinds

are plunged. The edge of this bed is sometimes, in winter, "garnished with Lettuce." The bed on the south side is used for forcing Lettuce, Tomatoes, Cu-

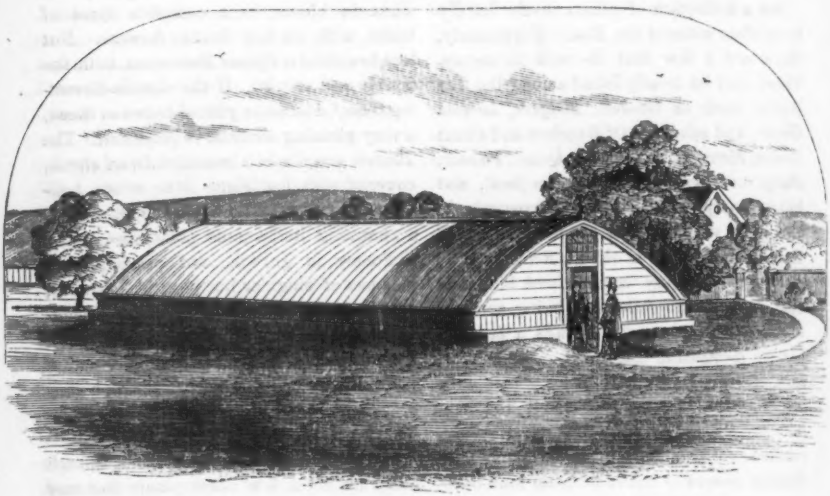


Fig. 1.—*Perspective View.*

cumbers, etc. That on the north side is used for propagating purposes. The bot-

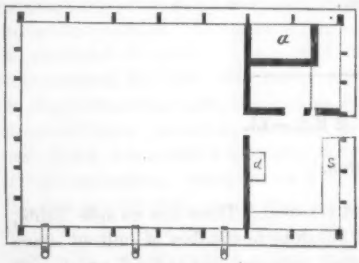


Fig. 2.—*Ground Plan.*

tom heat for these beds is supplied by brick tanks resting on piers, the water being heated by four inch iron pipes running through the tanks. In this case it was necessary to run the pipes through the tanks, because they are also used for heating a grapery near by, the floor of which is considerably higher than the tanks. The arrangement works well, but involves an expense that may be avoided where two houses on different levels are not heated by the same boiler. *Fig.* 3 gives a good

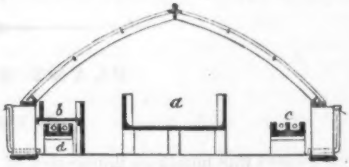


Fig. 3.—*Section.*

idea of the interior arrangements. In addition to the beds mentioned, there is considerable shelving at each end.

On the whole, the house is an excellent one, and, withal, handsome. The owner is so much pleased with it, that his only regret is, that it is not larger. Another just like it would be a handsome addition to his fine place.

FUNGI IN THE GREEN-HOUSE.

BY A. VEITCH, NEW HAVEN, CONN.

It is not the foliage of plants alone that is liable to the attacks of fungi, but the roots as well. And when it is remembered how necessary these organs are in the economy of vegetation, too much vigilance can not be exercised in protecting them from every influence, the tendency of which is to destroy, or even weaken their energies. The spawn of some of the larger fungi is capable of doing this, as many gardeners very well know. Indeed, were they to record all the mishaps resulting from such causes, within the limits of their experience, they would constitute quite a long chapter; the study of which, however, might be useful in teaching others how to avoid similar misfortunes.

It sometimes happens that the spawn of fungi finds its way into flower-pots along with the material used in potting. This is more likely to be the case when the rotted dung of old hot-beds is used, as it is often more or less pervaded with the mycelium of several species of *Coprinus*, and others nearly related. By way of showing how much mischief is sometimes done in this way, I may mention a circumstance which happened some eighteen months ago. It was that of a stock of Roses potted with this kind of material, the result of which was, several hundreds of them were injured beyond recovery before any danger was apprehended: an event not to be wondered at, as at potting time they were set into winter quarters to rest until spring.

The practical lesson to be derived from this and similar cases is, never to use material to pot with unless entirely free from all mouldiness; and it is not unlikely but that "virgin loam from an old pasture" and well rotted manure thoroughly wrought into a compost by frequent turnings, owes at least half its virtues to being free from the spawn of fungi and its deteriorating effects.

Plants in green-houses, especially those standing upon pine wood shelves, in a state of decay, are in danger of being injured by fungi, which not unfrequently grow upon them. I refer more particularly to some of the members of a small group belonging to the tribe *Gasteromycetes*, technically called *Nidularia*, so called from the plants resembling little nests, or which "consist of leathery cups containing several lenticular bodies, supposed to contain sporules, and altogether resembling a bird's nest with eggs." *Nidularia campanulata* is common in green-houses, coming to perfection in autumn, and in favorable circumstances so abundant, that when mushroom-growers raise as good crops of their esculent, they can not feel otherwise than satisfied. But though autumn seems to be the only season in which this very interesting fungus fructifies, the spawn grows throughout the year, showing itself in white flakes on the surface of the boards, and developed with great rapidity under the flower-pots; owing to the constant supply of moisture it receives there, and to the absence of light. It is here the michief is done; for if not attended to, it may find its way through the holes of the pots, and spread throughout the entire ball, destroying every root and fiber as it goes. I saw some valuable plants last season nearly destroyed in this way, and would have been entirely so had it not been arrested in its progress. The method employed to do this was to turn the plants out of the pots, and remove all the roots and every particle of earth the least affected; otherwise, I know of no way in which to save plants so circumstanced.

But, however annoying it may be on shelves, it is still more so in propagating beds, where they are "possessed," as in them its progress is more concealed, and its presence may not even be suspected until much mischief is done.

All danger from this enemy may be

avoided by frequently painting the shelves, or replacing them with new ones when in a state of decay. Sometimes, however, it may not be convenient to do either the one or the other. If so, it would be safe to sprinkle sulphur occasionally over the parts affected, as that mineral kills fungous growth wherever brought into contact with it.

[We would add to Mr. Veitch's very interesting article, that quicklime added to the sulphur renders it more potent. A gardener should always be on the lookout for these enemies, and apply the remedy before much mischief is done; nay, even when there is reason to suspect their appearance; for the old adage, that "an ounce of prevention is better than a pound of cure," will apply here with great force. —Ed.]

COIT'S BEURRE AND TARQUIN PEARS.

BY THE EDITOR.

We give portraits this month of two pears as dissimilare almost as two pears can be. The first is Coit's Beurré, a pear as yet but little grown, but of decided excellence, and destined, we think, to become quite popular. It has sustained its goodness wherever we have seen it. It is a good grower, and bears well. The second is Tarquin, remarkable chiefly for the length of time it may be kept. It is simply a winter cooking pear of little merit, and perhaps not worth being figured.

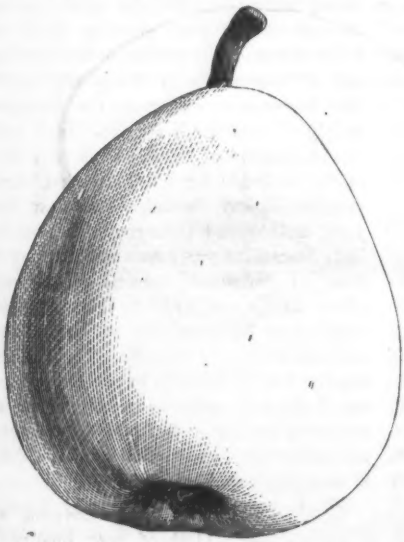


Fig. 1.—*Coit's Beurré.*

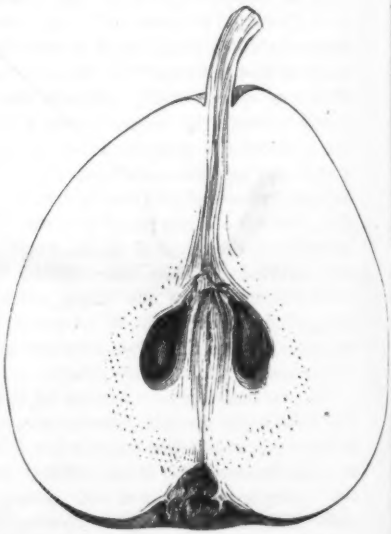


Fig. 2.—*Section.*

Coit's Beurre.—*Fruit*, medium, obovate, inclining to pyriform. *Skin*, yellow, deeply covered with russet, often with a beautiful crimson cheek. *Calyx*, large, open, with narrow segments, in a broad, very shallow basin. *Stalk*, short and stout, inserted in a small fleshy cavity. *Flesh*, buttery, juicy, spicy, and vinous, but a little

gritty at the core. *Quality*, best. Season, September and October. It is an American Pear, having originated in Ohio.

The following is Mr. Downing's description of Tarquin, our own being lost:

"*Fruit* large, pyriform. *Stem*, long, stout,

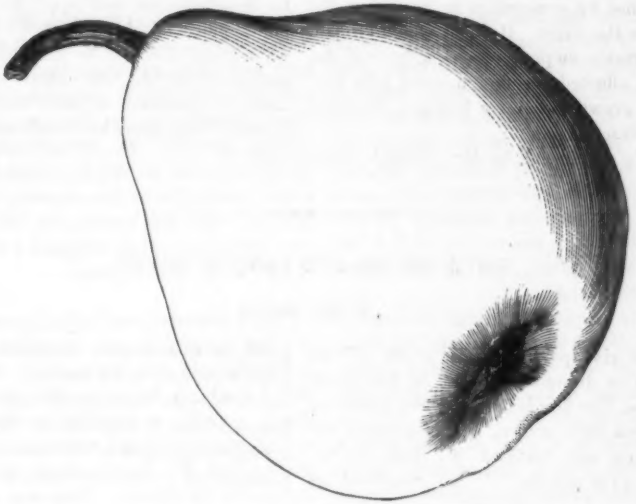


Fig. 3.—Tarquin.

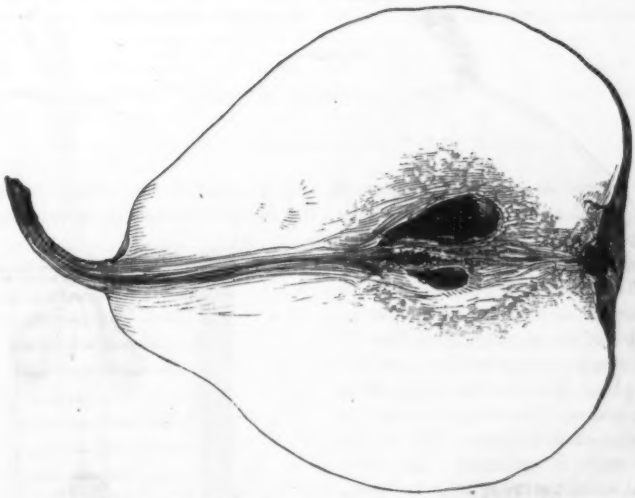


Fig. 4.—Section.

fleshy at junction, without cavity. *Calyx*, large, open, with persistent segments, in a broad, irregular basin, surrounded by russet. *Skin*, green, sprinkled or patched with russet, and thickly covered with brown dots. Flesh of poor quality. A very long keeper."

BLACK BARBAROSSA GRAPE.

BY E. FRYER, GARDENER TO HON. WM. H. STARR, NEW LONDON, CONN.

A VINE of this fine variety is growing in one of the graperies under my charge in this place. Last season it bore about twenty-eight pounds of fruit, bunches weighing from one and a half to four pounds each. Many of the bunches remained on the vine up to January last, and every berry was still plump and in good order. Two bunches remained till the second day of this month, (March.) A few berries were plump, but all the others were good raisins.

For late keeping, I presume, it is one of the best, if not *the* best variety yet introduced; for, with proper appliances, there is no difficulty in keeping the fruit in good order until March.

It should be a great acquisition to a commercial grower, and perhaps indispensable in a private place, where grapes are required during the whole year.

One thing in connection with this variety it may be well to mention; that it will not bear with close pruning; that is, it will not bear a full crop if pruned so close as vines generally are on the spur system. Double spurring, as recommended by Chorlton, is the method by which I have found it to produce a fair crop every year. With a house and border, the latter not over rich, exclusively to itself, I think it would be a profitable grape.

[The Barbarossa is undoubtedly valuable as a late keeping grape. It is also a profitable grape to grow for market. We are inclined to think, however, that the Lady Downe is quite as valuable in these respects, besides being a very much better grape. Has Mr. Fryer grown it? We should be glad to hear from any of our readers who have.—ED.]

AMATEUR'S SEED BUREAU.

BY THE EDITOR.

WE lately saw at a friend's a piece of furniture, which it seems to us is admirably adapted to the preservation of such seeds and bulbs as the amateur usually keeps. The reader will get a good idea of its appearance and construction from an examination of the accompanying figures, the first being a perspective view, and the second a plan. It is five feet high, three feet wide, and one foot deep, but may be made of any convenient size. The one we saw was made of mahogany; any other wood that suits the taste may be used. One made of pine, well oiled and rubbed bright with soft shavings, would not be out of place in the library or sitting-room.

The sides should be made of boards not less than an inch and a half thick, to make room for the bolt of the lock. The back may be made of thin stuff. The drawers may be five inches deep, or any other convenient depth. The two narrow strips or flaps on each side, one of which is shown open, serve the purpose of securing the

drawers. On the flaps being closed and locked, all the drawers are secured against

being pulled out. In other words, by simply turning the key, half the drawers are locked. The position of the locks is shown, and the engravings exhibit the construction so clearly, that further detail is unnecessary.

This bureau, we think, is a French contrivance. It may be applied to a good many useful purposes, besides keeping seeds and bulbs, as well as be made an elegant piece of furniture, suitable for the parlor, the library, or the general sitting room. It would make, for instance, a very good fruit bureau, the drawers being made sufficiently deep to stand the fruit up. In a moderately warm room, Pears would ripen well in it.

WAYSIDE THOUGHTS UPON ARCHITECTURE.—V.

BY ARTIFICER.

The Architect.—We all, doubtless, understand, in a general way, that an architect is one who designs and superintends the erection of buildings, without being positive or clear in reference to any of the details of his profession. It is for this reason, principally, that I desire the indulgence of the reader in a brief review of some of his qualifications and duties.

A good many qualifications are necessary to make a thorough architect. Not only is he required to be conversant with the theory of his art, but equally so with all the practical methods.

"*Practice* is the constant and accustomed attention to the manual operations, and to the several kinds of materials of which a work may be constructed;" and *theory* is the ability to demonstrate and apply the *principles, and rules*, and *methods* of proportion, in the current language of the art.

To a complete and thorough education, embracing a knowledge of letters, that he may be enabled to make his thoughts, observations, and experience intelligible to others, should be added that moral and religious discipline which strengthens the character and fortifies the conscience, begetting a faithful and honorable discharge of duty and trust.

To convey his ideas and conceptions, for ornament or utility, to workmen, the the architect should be accomplished and skillful in drawing, so as to form the most perfect representation possible of that which he would execute. Arithmetic and mensuration are necessary to calculate the expense of a building, adjust measurements, and solve difficult problems of proportion or symmetry, and constructive laws relating to strength of materials.

Natural philosophy, for the resolution and composition of forces, adjustment of laws of sound, light, heat, and ventilation. Chemistry, for the composition of materials. Geology, for their quality and duration. Botany and history, for a proper selection and judicious use of style and ornament for all classes of buildings. The architect should also be familiar with the general principles of painting, music, and sculpture, as aids and elements in the composition of design. A practical knowledge of the law, so far as relates to rights and divisions of property, restrictions under which he is permitted to build, and the nature of *contracts*, *agreements*, and *awards*. The general principles of civil government should be known, to aid in designing for the requirements of civil building. Theology, for general church building. The architect should undoubtedly have a genius adapted to the calls of his profession, inventive skill, originality, taste, and something of the poet's fire should burn within him.

These are some of the qualifications necessary to constitute a good architect. His duties consist in the preparation of all *plans*, *designs*, working details, and specifications; the adjustment of all differences that may and sometimes do arise from a misapplication of specified requirements.

It is within his province to see that the materials used by the different artificers in the construction of an edifice, be of a good merchantable quality, and also that the workmen execute the work of their respective departments according to the plans given them.

We can conceive, from this brief review, how much diligence, attention, and study are required on the part of the student in architecture to excell in his profession.

One of the brightest examples afforded by history for the emulation of the student is that of Bonarrotti Michael Angelo, a distinguished architect, painter, and sculptor, born in the 15th century. His talents for designing were so great, that he is "figuratively said to have been *born a painter*." From the school of Ghirlandau, he went to that of Lorenzo de Medicis, where he remained until the death of his patron, when he removed to Bologna, where he executed an image of Cupid, a portion of which he buried at Rome, but which afterward came into the possession of Cardinal St. Gregory as an antique; and it becoming known shortly after who produced it, the reputation of Bonarrotti as a sculptor became established. His skill and perseverance procured him the patronage successively of Julius II., Adrian VI., Clement VII., and Paul III., in whose reign he commenced painting the great work of the *Last Judgment* in the Sistine Chapel. But what commends him as a particular example to students of architecture, were his own efforts as an architect, his principal work in this capacity being the St. Peter's Church of Rome. An evidence of his rapidity and skill is given by a writer of the 16th century, who says: "I saw Michael Angelo, when 60 years of age, strike off more chips from a hard piece of marble in less than a quarter of an hour, than three young masons would have done in three or four hours. He struck with such fury and impetuosity, that I expected to see the work broken to pieces, taking off at a blow large pieces three or four inches thick, and so close to the mark that the slightest deviation must have spoiled the work."

[We are glad to see Artificer give so wide a range to the talents of the architect; and especially are we glad to see him give place to the moralities. It is in such a field alone, that a good name and permanent fame can be acquired.—Ed.]

PARK SPICE APPLE.

BY WILLIAM S. CARPENTER, NEW YORK.

This excellent apple originated on the farm formerly owned by Rodger Park, Town of Harrison, West Chester Co., N. Y. The original tree is now supposed to be over 100 years old. It is still vigorous, and bears very large crops of beautiful fruit. The tree stands alone in a pasture lot. The estimation in which this apple was held by the Park family, may be judged from the fact, that nearly all the grafted fruit on the farm is of this variety; and what is most remarkable, grafts have never been disseminated; and, with but one exception, it can not now be found growing off of the original farm. The nearest neighbors do not seem to know that a most valuable apple is within their reach. We trust that scions will now be disseminated by the person who discovered it, about two years ago, and was induced to purchase the fruit for its fine quality and great beauty, and ship them to

England with a very fine lot of Newtown Pippins. The Park Spice brought the largest returns.

Fruit, pretty large, slightly oblique, conic. *Skin*, shaded with red and striped with crimson on a yellow russet ground.

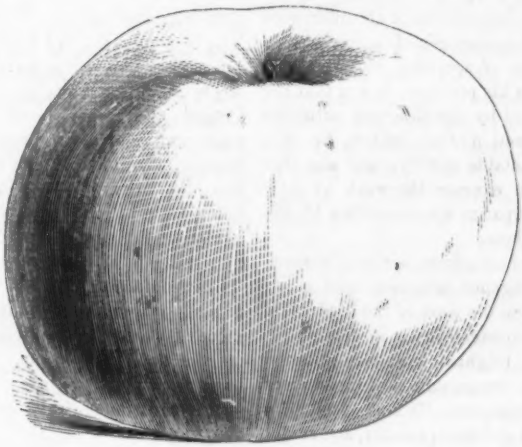


Fig. 1.—*Park Spice.*

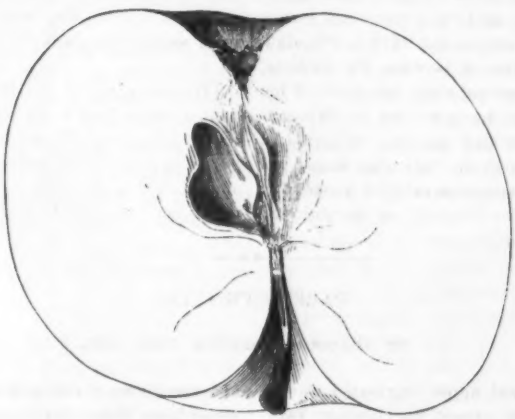


Fig. 2.—*Section.*

Flesh, yellowish white, fine grain, crisp, juicy, with a very pleasant spicy flavor. Season, January to May.

[We may add that we tested the specimen from which our portrait was made, and are prepared to endorse Mr. Carpenter's estimate of its fine quality.—Ed.]

REPORT ON GRAPES IN CENTRAL IOWA. LATITUDE 42°.

BY LUTHER DODD.

With the exception of a few Isabellas and Concords, all my vines are young, having been planted a year ago last spring. I have from one to four each of the following varieties: Diana, To-Kalon, York Madeira, Union Village, Allen's Hybrid, Elsingburgh, Hartford Prolific, Logan, Northern Muscadine, Rebecca, and Anna. They were planted on high prairie land, sloping a little to the north, in a village garden, but slightly protected by neighboring buildings.

The ground had been worked about two feet deep, and mixed with well-rotted stable manure. The vines all started well, and made a good growth the first summer, except the Anna. The Delawares grew to my entire satisfaction.

Early in November I pruned them back to the third bud of the new wood, and covered them with earth. When I uncovered them in the spring, I found the Union Village dead to near the ground. The new wood was all killed. Allen's Hybrid was dead, root and branch. Diana was killed back two buds. My other vines, of the above catalogue, were all alive to the last bud.

The winter was very severe on small fruit. Changes were frequent and violent from quite warm to intense cold. Isabella and Catawba vines, though covered, were killed, in my own and neighbor's garden. The hardiness of the different varieties was tested, and the fact that we have vines hardy enough to endure our most severe winters demonstrated. Though not the coldest, last winter was the most severe on vines and small fruit, of any since my residence in Iowa commenced, six years ago. By slight winter protection, I am convinced that hardy vines will do well in Central Iowa.

Of my vines, the following bore fruit the past season, and ripened in the order and at the time named: Hartford Prolific, ripe Sept. 1st; Delaware, ripe Sept. 10; Northern Muscadine, ripe Sept. 15; Concord, (vines four years old,) ripe Sept. 3; To-Kalon, ripe Oct. 1st; Diana, ripe Oct. 10; sweet and good. York Madeira, Elsingburgh, and Anna, all failed to ripen any fruit. A vine of each bore a few bunches, which hung on the vines till severe freezing destroyed them. I hope that they will do better when the vines acquire a little more age. None of my vines have yet been affected by mildew or wilting of the grapes.

The Diana has grown the most rapidly and yielded the most fruit. The Delaware is certainly the best, and Diana the next. To-Kalon is simply good. Hartford Prolific, Northern Muscadine, and Concord I class together, and call them all poor. I extended my variety last spring, and expect to add to it next; and hope to be able, if life is spared and Providence favors, to make a more interesting report in another year.

[We have no doubt that we have grapes that will ripen uniformly in Central Iowa, and those living there will read your report with interest. We must have grapes for the whole country. We shall be glad to hear from you again.—Ed.]

SEMPERVIVUM ARACHNOIDEUM.

BY THE EDITOR.

MANY years ago we were a good deal delighted in being the owner of a plant of the *Sempervivum arachnoideum*, then, and even now, a rare plant; for a specimen is very

seldom seen, even in the best collections. Some time since we saw a picture of it in the *Revue Horticole*, and had it copied, with the intention of placing it before our readers, which we now do. It belongs to the Houseleek family, of which it may be con-

sidered a very delicate representative. It is a very interesting rather than a beautiful plant, though it is not destitute of the latter element. Its specific name, *cob-webbed*, indicates its appearance very clearly; for it looks as if a spider had run all over it, leaving its web at every point of contact. This is very well shown in the engraving.

The plant is not difficult to grow, but is very impatient of water. Put it in a light, open, sandy soil, with plenty of charcoal drainage, and water sparingly, especially when the plant is dormant, or it will rot off. If this should happen, lay the plant, or the small ones that grow at the sides, on a shelf to dry a little, and then pot again in sandy soil. It is, withal, such an interesting and curious plant, that a little trouble in its culture will be well repaid.

INCREASE OF THE PLANT TRADE OF NEW YORK.

BY H.

Messrs. Editors—I have been engaged in the plant trade in the vicinity of New York for the past sixteen years, and can speak from observation during that time of its immense increase. Nothing can better indicate the extension of floricultural taste, which in this case is certainly far in advance of the population. Sixteen years ago, those engaged in the trade might have been numbered by dozens; now they may be numbered by hundreds.

But to give your readers an idea of the present magnitude of the business, a table of figures will best explain; of course, it is not given as strictly correct, but as an approximation, which, on consulting with some of the largest growers, is believed to be rather under than over the mark:

150,000 Roses in pots, average of 30c. each	$45,000
300,000 Verbenas in pots, average of 6c. each	18,000
100,000 Fuchsias in pots, average of 20c. each	20,000
30,000 Dahlias in pots, average of 25c. each	7,500
10,000 Salvias in pots, average of 15c. each	1,500
25,000 Pelargoniums in pots, average of 25c. each	6,250
20,000 Scarlet Geraniums, average of 15c. each	3,000
25,000 Monthly Carnations, average of 25c. each	6,250
50,000 Heliotropes, average of 10c. each	5,000
20,000 Lemon Verbenas, average of 25c. each	5,000
50,000 Petunias, average of 10c. each	5,000
100,000 Tuberoses, average of 8c. each	8,000
50,000 Gladiolus, average of 25c. each	7,500
10,000 Phloxes, average of 15c. each	1,500
20,000 Chrysanthemums, average of 15c. each	3,000
300,000 Miscellaneous Bedding Plants, average of 15c. each	45,000
	$187,500

The sales of some of the largest growers now amount to upwards of $10,000 annually; yet some of these men, who, on beginning business, carried the products of their green-house in baskets, or trundled them in wheelbarrows or handcarts to market, now employ two or three teams daily in getting their goods to the dépot of sale.

I may add, that now plants are much better grown, and that though prices may be lower than what they were a dozen years ago, yet the large quantities sold, and the better modes in use for propagating and growing plants, make the business to the producer more profitable than then.

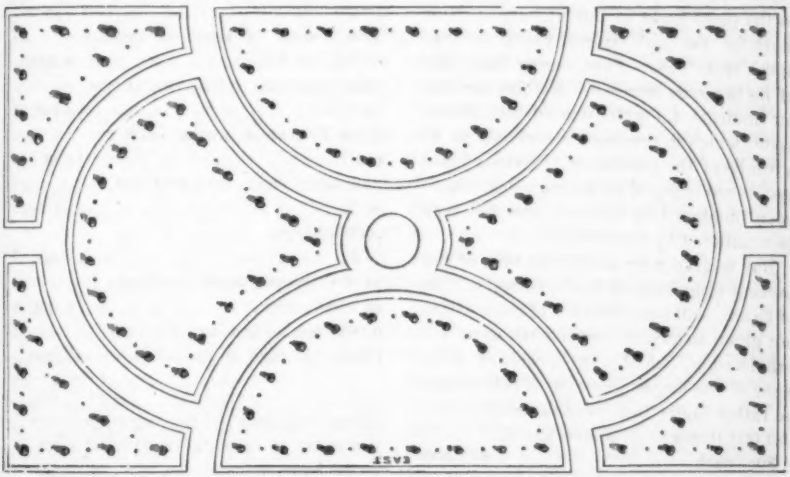
[These statistics are very interesting.

If we add to the above figures the large sum realized from the sale of cut flowers, bouquets, baskets, &c., we shall have a sum total not far from $300,000, which is probably below the mark. This, be it remembered, is for the city of New York alone. It would be interesting to hear from other large cities, in order to get an approximation of the flower trade of the whole country. Can any of our readers furnish the figures?—Ed.]

AN ORNAMENTAL FRUIT GARDEN.

BY THE EDITOR.

In a former article we announced a purpose to give occasionally a garden plan, and we accordingly present a plan for an ornamental fruit garden. It was designed for D. D. Chamberlain, Esq., of Croton Falls. It is intended chiefly for fruits. The location being a conspicuous one, less regard has been paid to straight lines than



would have been done for a vegetable garden, or one in which vegetables formed the chief object. In some places, the plan would be a very pretty one for a flower garden. Dwarf Pears and Dwarf Apples will be planted four feet from the edge around all the beds. Between these will be placed Currants and Gooseberries; and Strawberries, in addition to the last, will be so planted as to leave a square in each of the large beds for vegetables. In the center of the garden there will be a rustic tool house, and under this a cistern, into which all the drain pipes will enter, with a suitable overflow. The garden is located conveniently near the barn-yard. It is intended that every thing about this garden shall be kept neat and clean. We think the plan will form a pretty feature in Mr. Chamberlain's extensive and beautiful grounds.

WHAT IS UNSETTLED, AND WHAT IS SETTLED, IN THE CULTURE OF THE GRAPE VINE?

BY HORTICOLA.

Quantum est quod nescimus.—PLIN.

How much there is that we do not know! Thousands of years have been rolling into the interminable ocean of eternity; Aristotle and Copernicus, Kepler and Newton, and Leibnitz, Linné, Lavosier, and almost innumerable other great men, have left their marks on the path to the halls of science; great discoveries have been made, greater will be made in the progress of the ages; yet we must meekly exclaim with Pliny: "How much there is that we do not know!" Every step which brings us nearer to the unfolding of the unchangeable laws of nature, doubles the distance, and we, like that ancient philosopher who, having been asked about God, doubled the days for investigation each time he was required to make known the result, we shall have to double, not days or years, but ages, and after the expiration of them, we shall be compelled to say: "How much there is that we do not know!" *What* we know is only what lies on the surface; we know *laws*, but we do not know *forces*. If we compare our progress with that made by the Egyptians, Greeks, and Romans, it is gigantic; but if we compare what we have attained and accomplished with that which remains to be attained and accomplished, it sinks into insignificance, and almost disappears from the view like a distant point when we recede from it.

The grape vine has been in cultivation for thousands of years; it has been subjected to the closest observation, much more so than any other plant or tree; experiments with it have been made, varied, and repeated under circumstances widely different from each other, in hot, temperate, and even cold climates, in the open air, and under glass; yet we have almost despairingly to exclaim: "How much there is that we do not know!" We shall attempt to show, in the following, what is unsettled as yet in the culture of the grape vine, and what is settled.

WHAT IS UNSETTLED.

I. PLANTING.—When we are about to plant a grape vine, and we consult books concerning the best season for it, we meet at the very threshold of grape culture with an *unsettled* point. While some of the best authors recommend the fall as the very best season, others, equally good, prefer the spring. Dr. *Grant*, f. i., is very much in favor of the fall; *Rubens*, whose book on the vine has been incorporated by *Haraszthy* in his extensive work, says that the latter part of April or the beginning of May is best for planting.

The same uncertainty prevails in regard to the proper *depth* necessary to insure success. Some authors think that a depth of *eighteen* inches is not too much; others think that *eight* to *ten* inches are sufficient.

II. SOIL.—On the authority of *Allen*, the soil for grape vines was most copiously enriched to a great depth by burying in it the carcasses of dead horses and other animals, and by mixing with it an abundance of bones, stable manure, etc. This practice has been called, by *Hovey* and others, *quackery*, which would have the inevitable effect of destroying the vines in a short time. Recently sods from an old pasture, cut from three to four inches deep, some muck, sand, lime rubbish, and the like, have been pronounced to be the best mixture for the border. The same difference of opinion is found in Europe; there, however, as well as in this country, there is a strong inclination visible towards only moderately rich borders.

III. LAYERING.—The practice of layering,

for several successive years, a foot or eighteen inches of the previous year's cane, in order to obtain roots in greater number, extending over a long piece of the stem, has had its origin in France. Especially at *Thomery* it is resorted to as a rule, in order to obtain bunches and berries of large *size*. Dr. Grant has made it known here, desiring to layer each vine for a length of about *ten* or *twelve* feet.

The Editor of the HORTICULTURIST, who has, by his "Hints," benefited the whole grape-growing fraternity so much that enough praise can not be bestowed upon him, differs from Dr. Grant on this point. A very intelligent vine-grower declared not long ago in our hearing, that he *repented* having layered his vines; for, instead of gaining, he had lost considerable time.

Dr. Jules Guyot, in his book, *Culture de la Vigne et Vinification*, 3d edition, Paris, 1861, on page 24, admits that layering is useful and almost indispensable for table grapes, but condemns it for vineyards, except, as he expresses it, "tous l'empire d'une absolue necessité pour le raisin de la vigne." That necessity arises, according to page 23, from the paucity and shallowness of the soil. In another place he asserts that layering is detrimental to the aroma.

IV. PRUNING.—Even the ancients practiced the *pruning of the roots*, to a certain extent. The Romans called it *ablaqueatio*. According to them, the best time is the middle of October. It consisted in removing the soil from around the stem to the depth of about six inches, at a distance of eighteen inches from it, at which the *surface roots are to be cut off*. This root-pruning must not be omitted for the first five years; afterwards it may be dispensed with every third year. For the curious, I give here the references: Pallad, xi., 5; Colum., iv., 8; Colum., iv., 24; Geop., v., 19; Plin., xviii., 75.

Wherever you travel in the vine countries of Europe, you find this pruning of the surface roots, if not universal, at least very common; but as practiced there, it takes place in the *spring*, which season the ancients thought unfit for it.

Even in Greece it is common. Mr. *Rivers* refers, in his well-known little book on *Orchard Houses*, on p. 158, ninth edition, to the letter from an American friend, then traveling, by the order of the government, in Europe. That friend says there that it interested him much, while in Zante and Cephalonia, that the people removed the soil from the vines from nine to twelve inches in depth, and cut off all the roots within six inches of the surface close to the stem. The friend adds, that, by imitating the Greeks also in manuring the replaced soil, he could save $500 an acre in the formation of his vineyard.

The pruning of the surface roots is strongly recommended by some skillful cultivators in this country; f. i., by Mr. Wm. *Saunders*, who keeps the first set of roots six inches below the surface, so that the soil above it serves as a mulch. Some, however, condemn it altogether, among the number of whom are Mr. *Bright*, in Philadelphia, and Dr. Grant, if I understand a remark of his on the functions of the surface roots right.

Some approve of a course intermediate between the two extremes. So Rubens, who recommends it for light sandy soils, disapproving of it in soil with a hard subsoil, or which is retentive of water.

In regard to the *pruning of the canes*, the first unsettled point we meet with is *the time*. Many prefer the fall, some even the very early fall, for performing that operation; others continue it through the winter, but wish it to be finished in February, in order to avoid the *bleeding of the vine*.

Kecht, in his celebrated work, (Practischer Weinbau,) page 39, says, that after pruning in late spring, a vine loses in twenty-four hours by bleeding *two* pounds of sap; the following day just as much. Sometimes the bleeding does not cease in two or three weeks. Now, as about five pounds of grapes yield two pounds of grape juice, it is clear that an enormous

quantity of wine is lost every year by spring pruning; f. i., in Wurtemberg, where the vineyards occupy 82,900 acres.

Dr. Jules Guyot, on the contrary, wishes to have the pruning deferred to the middle of March or the middle of April. On page 37, he prefers even the period from the 15th to the 30th of May; "for," he says, "it is then easy to choose the quantity of bunches to be left according to the strength of the vine." He continues:

"The water which flows out abundantly after spring pruning is not the *sap;* it is a little stream, from which each branch takes what it needs, the *elements* of the sap. The bleeding of a vine shows simply that the irrigating organs work, and that they work well."

To form *a head* by pruning repeatedly low, is considered of vital importance by the majority of the German writers on the vine. C. Reemlin, the Vine Dresser's Manual, New York, Saxton, p. 43, says, "the formation and preservation of which—the head—is a matter of great moment." Rubens, p. 50, compares the head with the stomach in the body of the higher animals, which serves to elaborate the juice for nutrition. "The thicker, therefore, and healthier the head is," says Rubens, "the better is the grape vine."

Other writers, *f. i.*, the French generally, do not even mention the head, showing thereby that they do not attach any importance to it.

Still, is *pruning at all necessary or useful?* Although nearly all the writers on the culture of the vine seem to agree on this point, yet we find a great many people who think pruning barbarous, wrong, the source of disappointment, disease, and loss. They point at our wild growing vines, which always ripen their crops; they remind us of the grape vines in Italy, trained to trees, which yield, without pruning, an abundance of most delicious grapes; they tell us of Isabellas and Catawbas, rambling unrestrained over fences and the roofs of houses, bearing and ripening their fruit annually.

V. PINCHING.—So far as pinching consists in removing the top of a fruit-bearing shoot several joints of leaves above the uppermost bunch, there appears to be no difference of opinion among the writers; but pinching the laterals of shoots intended for bearing canes the following year, is considered absolutely necessary by some, and radically wrong and pernicious by others.

Dr. Grant, the Editor of the HORTICULTURIST, and a host of others, look upon pinching the laterals from the beginning as indispensable. On the other hand, *Kecht*, and his follower *Meyer*, in his work, Der Weinstock, (the Grape Vine,) Erlangen, 1861, protests against the pinching of the laterals of the cane intended for fruiting the next year. *Kecht* does not wish to do any thing to the young vine until it reaches the bearing age, except to cut it down to one or two buds every year. Also *Rubens* advises to let the laterals grow until they become too long. They are then to be shortened in a little. This has to take place in August.

Kecht and *Rubens* assert that the buds of the base of the laterals grow much more plump by not pinching the laterals than by pinching.

Kecht and others think topping the vines towards the close of August or the beginning of September injurious to the vine.

VI. TRAINING.—It would be impossible to explain here the multitude of systems according to which the vine either has been or is actually trained. We understand here by training those two general systems adopted for managing it, viz., the so-called *renewal* and the *spur* system.

It is unnecessary to remind our readers of the fact that a few years ago all was renewal. The cane which had borne was cut out to give place to a new one carefully trained the year before. This is the system pursued by the Germans in Ohio, as well as by a great many of them in their own country. It is extensively practiced in France; it is the system of *Dr. J. Guyot;* it is the system which A. J. Downing prefers.

Dr. Grant, on the contrary, declares that the highest flavored fruit grows always near an old stump; he advises, therefore, to change *Dr. Guyot's* peculiar mode of training, so as to apply to it the spur system. The spur system is generally the system adopted in vineries.

VII. COVERING.—In this country, covering the grape vines in the late fall is thought to be indispensable for all varieties, even those that are perfectly hardy. A great many articles have appeared in the Horticultural Journals to prove not only the *necessity*, but also the *utility* of covering.

In Germany, covering is thought to be a necessary evil, not to be resorted to except in localities subject to late spring frosts. *Rubens* says, (p. 261,) that it is much better not to cover the vines in a country where the winters are not excessively cold. He adds that vines which have been covered, are much more tender than such as have not been covered.

VIII. MANURING.—The best European writers on the management of grape vines in vineyards and gardens, caution against over manuring. While *Guyot* thinks very little of compost, *Dubreuil* recommends it, especially for soils of a certain kind. In this country, stable manure is, in the fall, spread on the surface, and dug under or removed in the spring. *Guyot* and *Dubreuil* say it must be dug under in the fall between the rows. Some ascribe to the use of stable manure a bad effect upon the taste and aroma of the grape juice; but it is denied by *Guyot* and *Dubreuil*. The latter discusses this question in his work, La Culture du Vignoble perfectionée, and says the only effect of manuring is the greater vigor with which the vines grow; consequently their product will be more watery.

Dr. *Grant* affirms that *liquid* manure causes an unhealthy growth. *Rubens* calls it beneficial, if moderately and judiciously used, and gives recipes for preparing it. *Meyer* is of the same opinion. He, besides, insists upon cutting up all the wood after pruning, in order *to bury it among the vines*. This advice is undoubtedly one of the very best that can be given.

Having gone over the whole ground, and having found so many points *unsettled*, we turn now our attention to

WHAT IS SETTLED IN THE CULTURE OF THE GRAPE VINE.

All agree that the grape vine is,

1. *A useful Plant.*—It serves for making arbors and producing shade on verandas, etc. Grapes are delicious to eat, and conducive to health. When dried they make raisins; their juice makes wine, from which, by fermentation and distillation, alcohol is obtained, and through it vinegar.

2. *A beautiful Plant.*—The elegance and abundance of its leaves, its climbing habit, the fragrance of its blossoms, the color and shape of its clusters, place the grape vine among the most beautiful plants in existence.

3. *A patient Plant.*—It may be propagated by seeds, cuttings of one or more eyes, of old or young green wood, by grafting, budding, or inarching; it may be treated right or wrong, or may be left to itself; it is a long-lived plant, and will yield its fruit abundantly every year.

It is high time for us to conclude this article. We do it in shaking hands with our readers, and whispering into their ears, or, according to circumstances, exclaiming aloud:

Quantum est quod nescimus!

[Thank you, Horticola, for this most interesting and learned resumé of the unsettled and settled points of grape culture. We feel strongly tempted to follow in your steps, but prefer to leave to you the ground that you have occupied better than we can.—ED.]

A TALK ABOUT VASES, GARDENS, ETC.

BY W., WASHINGTON HEIGHTS, N. Y.

The few remarks I shall make are not intended for professional gardeners or experienced amateurs, but rather for that large class who have gardens, but who can not afford to keep a gardener, merely keeping a "man of all work," who does not profess to know any thing about flower gardening. The lady of the house also, upon whom the responsibility of this branch of the garden generally devolves, is in the same fix as Patrick, *i. e.*, knows very little about it.

Vases, when properly filled, properly placed, and well taken care of, are useful and ornamental. Useful, in spots near and under trees, where it is desirable to have a bed of flowers, but where flowers will not grow in consequence not of the shade so much as the absorption of the moisture by the roots of the trees in the summer months, which leaves the ground as dry as powder. In such a spot a vase or vases may be placed, and, being partially shaded, will not require so much labor in watering, and will keep in bloom a long time.

A moderate sized vase, if not too densely shaded, may be filled thus: A good shaped plant of Souvenir de Chiswick or Sir Colin Campbell Fuchsia in the center, edged round with three plants of variegated Sweet Alyssum and three of Lobelia speciosa.

If the location is more exposed to the sun and wind, put a Tom Thumb or Punch Geranium in the center, with the broad-leafed Periwinkle, both the plain and variegated variety, on the outside, with the Ivy-leafed Geranium. A vase filled with the new blothed Petunias also looks well. Another elegant and graceful plant for a vase is Russellia juncea. Be sure there are holes in the bottom to let the superfluous water out; and be sure also to put stones or oyster shells over the holes to prevent them being choked with the soil. Two thirds good loam, the other third fine decayed manure and sand, will be a suitable compost.

In planting circular or oval beds, it is often difficult to find suitable plants for the center. A vase, in some cases, answers the purpose very well; a good standard monthly Rose, a Fuchsia Corallinna, also will do, if it is a strong plant. For a large figure on a lawn, a Norway Spruce looks well, till it gets too large; the bed may then be turfed over. A circular bed, say 12 or 14 feet in diameter, on a lawn, planted thus, would be showy and effective. A good shaped Norway Spruce, 7 or 8 feet high, in the center; next to this round, 18 inches apart, some of the new French Gladiolus; next to this alternate the dark leaf Coleus Verschaffeltii with variegated Geranium, or Cineraria maritima, (*Powdered bean,*) or the new Centaurea candidissima, with one or two plants of Ageratum Mexicanum. Finish the outside with Phlox Drummondii, variegated Sweet Alyssum, Verbenas, and Gaillardia picta.

Attempts are sometimes made to copy the English flower-garden style, in having each kind of plant in separate beds; but in this climate it is, and will be, a failure in nine cases out of ten, unless in the hands of an intelligent and experienced gardener, who understands what plants to use, the harmony and contrast of colors, etc., with plenty of green-house room to grow his plants in. Of course, a person of moderate means may have a bed of Petunias and a bed of Vebenas, etc., but not sufficient to give the shadow of effect they produce there with their thousands of plants of scarlet Geraniums, yellow Calceolarias, and blue Lobelias. Such plants, in our arid climate, are perfectly worthless.

Plainly speaking, too many people make a wilderness where they intend, no doubt, to make a paradise. The picture of the

wilderness I mean is this: Perhaps there are ten or a dozen beds around the house and on the lawn with nothing in them. About the first fine day in May, the lady espies her neighbor over the fence at work "making garden." Well, she must do the same; so off she goes to the market or the florist, and purchases a lot of plants in full bloom. They *must* be in bloom, or she will not have them. Some of them may be good plants for summer blooming, and some may be worthless for such a purpose. By the time they arrive home it is likely they are as dry as dust; but they are turned out of the pots into the beds, dry as they are, and left to take care of themselves. But there is not half enough to fill the bed, and she does not feel able or willing to buy any more plants; and, as seeds are cheaper, the seed store is patronized, and annuals purchased to fill up the blanks. These are sown, some too deep and some too shallow; and perhaps the contents of some of the papers all in one heap. Perhaps not more than half of them come up; then the poor seedsman is blamed for selling worthless seeds.

Let a person visit such a place about the 1st of July. He will probably find the grass around the house a foot high, weeds in the walks, and the beds full of weeds, and half-starved, scraggy, bloomless plants, some not tied up at all, and those that are perhaps tied to small bean poles with pieces of old rags, instead of twine or matting.

Now this, I am sorry to say, is not an exaggerated or overdrawn picture. There are plenty of such places to be found in the country every year.

Now it was not intended, I know, by the occupants of these places, in the spring, that their garden should run riot in this way, and assume such a desolate aspect; but so it is. But as no beneficial results emanate from condemning and pointing out the errors of others, unless we are prepared and willing to suggest or substitute something better, I will endeavor to give a few hints, which possibly may be of some little service to beginners. In the first place, I would say, *do not attempt too much;* what you undertake to do, do it *intelligently* and *thoroughly*. If your means will not permit you to employ a competent person to attend it, or you are not willing or able to work yourself, why, do not waste your money in making half a score of flower-beds, and half a mile of paths to be kept clean; but purchase a few good flowering shrubs and evergreens, and have them judiciously placed around the house and on the lawn, and keep the grass closely cut, the edges of the walks neatly trimmed, and kept free of weeds. Such a place always looks respectable and inviting, even without a bed of flowers to be seen. By no means would I propose to banish the flowers; but have no more than what you are willing and able to take care of; they will not take care of themselves.

A family of well-bred, well-trained, and well-educated children are a source of pride and pleasure to their parents, and also to their friends; it is so with a well-planted and well-kept flower garden. The amount and degree of pleasure derived in both cases, depend upon the care and attention bestowed on them.

It is surprising what satisfactory results can be obtained with a very small outlay of money, when judiciously expended and applied. I know places where the occupants of a small place have expended $100 in the season for plants, labor, etc.; another party in the same place would not spend $50, and yet the place would be more attractive in every way. The effect produced in a flower garden depends very much on the way the plants are arranged as regards height, color, etc. For instance: take a circular bed that will hold 50 plants, suitable plants for show in summer; give these to a novice in gardening to plant; then duplicate them, and put them in the hands of an experienced gardener of good taste to plant in another bed of the same size, and the contrast and results will astonish you.

For the benefit of those whose inexperience does not qualify them to select for themselves, I will give a list of a few good standard varieties of plants from different classes or sections:

12 DAHLIAS.—Belle de St. Lawrence, Baron Alderson, Cossack, Roi de Pontille, Summit of Perfection, Vesta, Triomph de Pecq, Triomph de Roubaix, La Phare, Yellow Beauty, Duchess of Cambridge, Mrs. Edwards.

12 HARDY HERBACEOUS PLANTS.—Aconitum versicolor, Achillea ptarmica, Anchusa Italica, Campanula carpatica, Chelone barbata, Clematis erecta, Delphinium formosum, Dicentra spectabilis, Ænothera fruticosa, Iberis sempervirens, Phlox subulata, Phlox Madame Rendatlen.

12 FRENCH GLADIOLUS.—Comte de Morny, Premices de Mont Rouge, Ophir, Neptune, Madame Souchet, Brenchleyensis, Clemens, Imperatrice, Vulcain, Victor Verdier, Le Puisson, Napoleon.

12 ANNUALS.—Phlox Drummondii, Candytuft, Mignonnette, Zinnia elegans, Hunnemannia, Callirhoe, China Aster, Japan Pink, Globe Amaranthus, Sweet Alyssum, Balsam, Malope grandiflora.

12 HARDY SHRUBS.—Althea frutex, Chionanthus Virginica, Calycanthus floridus, Deutzia gracilis, D. scabra, Forsythia viridissima, Rhus cotinus, Pyrus Japonica, Spiræa prunifolia, S. Reevesiana, S. callosa, Weigela rosea.

Of course, Verbenas, Petunias, Chrysanthemums, etc., must not be forgotten.

[Very timely and acceptable. There is a large class of amateurs who need just such advice and information as this, and they will all thank you. At this season of the year we always wish that the magazine were twice as large as it is, that we might have more room for such articles.—[ED.

WHAT IT COSTS TO PLANT A VINEYARD.

BY CHARLES REESE.

As there appears to be a pretty general desire among novices in vine-culture, to get at the cost of planting and bringing into full bearing an acre of this delicious fruit, I propose, at the risk of being considered "intensely practical," to give my story in a plain way, adapted to the comprehension of any one who knows a vine from a fig tree.

It has often been a matter of astonishment how much ignorance pervades the community upon this and other subjects, when they might be so easily enlightened, if they would take the trouble to write half a dozen letters.

The nurserymen all over the country advertise their "priced catalogues," with handsome illustrations and accurate descriptions of many hundred varieties of fine fruits, for the low price of one or two postage stamps; and yet many intelligent amateur farmers will go to an auction and pay seventy-five cents or a dollar for a tiny, sickly-looking, one year old Delaware vine, and forty, fifty, or sixty cents a vine for Catawbas. Of course they are appalled when they calculate the cost of an acre at those prices. A little trouble will show them where to purchase fine healthy vines of the former for sixteen cents apiece, as I did last summer, and the latter for fifteen dollars a thousand, or one and a half cents apiece. And so on through the whole list of horticultural treasures, from luscious Bartletts and Beurrés, and Crawford's Early and Early Yorks, down to the splendid Triomphe de Gand, and Russell and Wilson's Albany.

I have made it a point, for several years, to send for a dozen or so of these counsellors every season; and as soon as they have taken their seats around my table, I ask each in turn what he has to say this year. By noting carefully their replies, it

is surprising what a fund of valuable information may be gained. As the result of my consultations for three years, I have forty thousand horticultural pets, embracing nearly all the finest fruits in America, excepting, of course, the tropical, and not a single worthless variety in my orchard.

The arrangement is such that not a foot of ground is lost, and yet each plant has all the space it needs for the present. When they require more room, they can very easily have it.

Well, now, the first question with some is, what has all this cost? imagining, of course, the amount to be ten times greater than it really was. That is just the question I now propose to answer. If I am too high, I am very sure my catalogue friends will put me all right quickly. One hundred Delaware vines will cost twenty dollars. In three years, at an expenditure of about the same amount annually, for raising the cuttings, you may have several thousand.

One thousand strawberry plants will cost from five to ten dollars. In twelve months you will have twenty thousand plants. With Raspberries, Currants, Gooseberries, &c., it is somewhat similar. By planting what you must cut off to promote the healthful growth of the plant, your stock will increase prodigiously. Dwarf Pears will cost from twenty to fifty dollars per hundred. Peaches from eight to ten. Apples, Plums, and Cherries, from ten to twenty, etc.

The cost of planting an acre depends very much, of course, upon the condition of the soil. In my case, not the slightest preparation was necessary, beyond a thorough subsoil plowing, a complete overturning of the sod, and such a disintegration of the subsoil to the depth of 20 inches, as it had not known since it came from the hand of the Creator. This was done by a neighbor with two powerful teams, at a cost of five dollars per acre. It then took two men fourteen days to harrow, lay out, and plant an acre, say about seven hundred vines, eight feet apart each way. The bone dust, half a peck to each vine, cost about twenty dollars per acre; so that the cost of planting an acre of Catawbas, including the vines, at the prices mentioned in the catalogues, (I raised all of my vines from cuttings,) was less than sixty dollars. The second year after planting we placed a chestnut post on the north side of each vine, at a cost of sixteen dollars a hundred, or about one hundred and twenty dollars an acre. We have for two years taken a crop of mangolds, beets, and carrots, from the land between the vines, which has fully paid the cost of weeding, cultivating, &c. *The entire cost of the vineyard, from the planting to the first full bearing, has been less than two hundred dollars per acre.*

Now let us look for the return. A few of our vines bore last fall. Nearly all will bear handsomely this year. An acre has been known to produce forty thousand pounds of grapes. This, at five cents a pound, would very handsomely pay for vines, cultivation, chestnut posts, interest on land, and state, government, and income tax and all, the way I look at it. And who would not have grapes every day for dessert at five cents a pound? I will venture the assertion, the day is not very far distant when they will be cheaper than apples, and every poor man in the land may have them for dinner whenever he wishes them.

I have had the fever for about ten years. Commenced in a small way in town, and have watched with much interest the gradual extension of the malady. Now that I am fairly in for it in the country, I shall, as soon as I have any thing very decided in the way of results to communicate, let you hear from me again; that is, if you would like to.

I hope to have something very interesting to relate about strawberries this summer; also, something on the old question, "Does it pay to plant Dwarf Pears?"

[By all means let us hear from you again, not only about grapes, but also strawberries and pears. Your figures in

regard to the cost of planting a vineyard will interest a large number of our readers. They might all be doubled, and still leave a handsome margin for profit. The expense of preparation will, of course, vary in different localities; but that ordinary plow land can be subsoiled twenty inches deep at a cost of five or six dollars an acre, we know very well, having repeatedly kept an exact account of it. Double this sum, however, should not be considered dear. Where draining becomes necessary, this must also be added to the cost of the vineyard. While we insist upon thorough preparation of the soil and the purchase of good vines, we are still of opinion that a great many are needlessly frightened at the cost of preparing an acre of vineyard.—ED.]

NEW OR RARE PLANTS, &c.

WE glean the following from our foreign files and other sources:

FORRESTIA HISPIDA, (Hairy-sheathed Forrestia.)—*Nat. ord.*, Commelinaceæ. *Linn.*, Hexandria Monogynia. Native of Malay Archipelago and Northeastern India. Beautiful from the purple color which pervades the whole plant.—(*Botanical Magazine, t.* 5425.)

IPOMÆA FILICAULIS, (Slender-stalked Ipomæa.)—*Nat. ord.*, Convolvulaceæ. *Linn.*, Petandria Monogynia. Native of "Asia, Australia, Africa, and even the warmer parts of the New World." An annual; flowers cream-colored, with purple eye.—(*Ibid., t.* 5426.)

GLADIOLUS SERICEO-VILLOSUS, (Shaggy-stemmed Corn-flag.)—*Nat. ord.*, Iridaceæ. *Linn.*, Triandria Monogynia. Native of the interior of the Cape of Good Hope. Three to four feet high; flowers greenish yellow in a very long, densely-flowered spike.—(*Ibid., t.* 5427.)

TRICHANTHA MINOR, (Smaller-leaved Trichantha.)—*Nat. ord.*, Gesneraceæ. *Linn.*, Didynamia Angiospermia. Native of Tropical America. Flowered in November by Messrs. Veitch. "No Gesneraceous plant, perhaps, exceeds this in elegance of form and beauty of colors." It is a stove climber. Flowers purple, yellow, and crimson.—(*Ibid., t.* 5428.)

CANSCORA PARISHII, (Parish's Canscora.)—*Nat. ord.*, Gentianaceæ. *Linn.*, Tetrandria Monogynia. Native of Moulmein. Leaves orbiculate-perfoliate; flowers white. An annual.—(*Ibid., t.* 5429.)

DENDROBIUM CILIATUM, (Fringed-lipped Dendrobium.)—*Nat. ord.*, Orchidaceæ. *Linn.*, Gynandria Monandria. Native of Moulmein. Sepals green, petals yellow, lip marked with purple lines.—(*Ibid., t.* 5430.)

CHRYSANTHEMUMS.—*Lord Clyde*, crimson, rosette form; *Saint Margaret*, orange, anemone-shaped.—(*Floral Magazine, pl.* 181.)

ERANTHEMUM TUBERCULATUM.—Native of New Caledonia. Exhibited by Messrs. Veitch, and obtained a certificate from the Floral Committee. Flowers white.—(*Ibid., pl.* 182.)

SCHIZOSTYLIS COCCINEA.—Native of South Africa. Previously portrayed in the "Botanical Magazine."—(*Ibid., pl.* 183.)

GLADIOLUS.—*Randle Jackson*. Raised by Mr. Standish. Peach-blossom colored, with dark crimson stripes.—(*Ibid., pl.* 184.)

MAGNOLIA LENNE.—Believed to be of German origin, but introduced by Mr. W. Paul from France. It is one of the deciduous kinds. Flowers large, purple outside, inside creamy white, and fragrant.—(*Florist and Pomologist*, ii., 25.)

GRAPES.—We find three new grapes announced, but have not seen them. The first originated in Saxonville, Mass., and is sent out by Messrs. Hovey of Boston. The second is Mr. Brackett's seedling, larger than the Union Village. This is also sent out by the Messrs. Hovey of Boston.

The third originated in Poughkeepsie, N. Y., and is sent out by the Messrs. Reagles of Schenectady.

STRAWBERRIES.—Mr. Carpenter, of New York, offers a new native seedling named *Progress*, described as "of the largest size, color a brilliant scarlet, high flavored and solid. Plants perfectly hardy and very prolific." *Buffalo Seedling* is the name of another native, sent out by Smith & Bryant, Buffalo, N. Y. It is said to have "great productiveness, size, flavor, and firmness." We have not seen the fruit of either of these, though we have plants of the first.

COLEUS ATROPURPUREUS.—We have seen this Coleus at Mr. Peter Henderson's. Its general appearance is somewhat like *C. Verschaffeltii;* but it is nevertheless distinct, the leaf being smoother and rounder, the color darker and more metallic. It will no doubt make a beautiful bedding plant.

DOUBLE PANSY, *Good Gracious*, (Donald Beaton's.)—Mr. Henderson has also imported the *Good Gracious* Pansy, a double variety raised by the late Donald Beaton. We have not yet seen the flower, but it is highly prized abroad.

VERONICA, *Gloire de Lorraine.*—A hybrid variety, with "flowers sky blue, lilac, and white, flowering from June to December." It is offered for sale this spring.

MONTHLY CALENDAR.—APRIL.

Orchard, Fruit Garden, &c.—Any preparatory work neglected last month should be attended to without further delay, especially for the destruction of insect nests. Do whatever plowing may be needed as soon as the ground is dry, whether in the orchard, vineyard, or garden. Be careful not to cut up the roots of vines or fruit trees. Pruning should be finished at once, and vines uncovered and tied up. Vines may still be propagated from eyes, and cuttings may be put in the open ground. Grafting of fruit trees may now be done. When trees, vines, etc., are to be planted, get them in the ground as soon as possible. Uncover strawberry beds, and make new ones when wanted. Three or four canes are enough to leave to each stool of Blackberries or Raspberries. Shorten in the laterals.

The Grapery.—From the middle to the latter part of the month, according to location, the borders of the *Cold Grapery* will need to be forked up, and enriched when necessary. Do nothing, however, to excite the vines prematurely. Leave them slung to the side of the house till the buds are well broken, when they may be tied up. Keep the house warm and moist when the vines have started, and in ventilating see that no current of cold air blows directly upon them. In the *Hot Grapery* the first early crop will now be ripening, and the air may be kept a little drier. In later houses pinching in laterals, &c., should be attended to as directed last month. Ventilate with care, so as to avoid sudden changes. Dust with lime and sulphur on the first appearance of mildew, or if there is reason to suspect its appearance. Thin out where needed, and do it while the berries are small. Do not allow any vine to carry more fruit than it is able to ripen thoroughly.

Green-House.—More air should be given to harden off such plants as are to go out of doors. Azaleas will now be in their glory. Water regularly and abundantly. If any are to be re-potted, do it as soon as they go out of bloom. Pinching to make a compact head or form specimen plants should be done while the new growth is quite succulent. Repot Caladiums, Begonias, Gloxinias, Achimenes, and other dormant plants. Shift Fuchsias that need it, and give them plenty of room to grow. Pelargoniums should have plenty of light and room, and be watered regularly, or they are apt to drop their leaves. Hyacinths, &c., past bloom, may be put out of

doors to make room for plants that are growing. Scarlet Geraniums, Verbenas, Petunias, and other bedding plants, may still be propagated from cuttings in the early part of the month. So may also Fuchias and Carnations for late blooming. Seeds of annuals and biennials may still be sown in pots. Insects must be looked after constantly, and plants generally kept clean and tidy, especially those that are to be turned into beds or borders.

Plants in Rooms.—Air may now be freely admitted at the windows. Watering will need more attention. Give most water to plants in bloom. Even Cacti, when in bloom, must be supplied abundantly. It must be understood, however, that a pot must never be set in a saucer, unless it contain some such plant as a Calla. Toward the end of the month some plants, such as Laurustinus, Pittosporum, Scarlet Geraniums, &c., may be put out of doors, if desired, gradually exposing them to the sun. The directions of last month, in regard to seeds and cuttings, may still be followed.

Ornamental Grounds.—Drives and walks should be put in order, and rolled. Rake off the lawn, if not already done. Trim edgings. Finish pruning shrubs, etc. Prune Roses, and be not afraid of the knife. Do all planting early in the month. Dig up beds and borders, and enrich them when needed, but only moderately, except for Roses. In addition to the usual bedding plants, provide a good supply of Coleus Verschaffeltii; there is nothing more attractive than a bed of this beautiful plant. Set the plants about eighteen inches apart. Centaurea candidissima, well set up, makes a fine center piece, and Variegated Alyssum a good edging.

Vegetable Garden.—This is a very busy month in the vegetable garden, and he who keeps up with his work now will not be likely to get behind during the rest of the year. Finish spreading manure, and spade up the soil deeply. Sow seed of Onion, Beet, Carrot, Parsnip, Cabbage, Cauliflower, Celery, Lettuce, Peas, Spinach, Radish, and seeds generally; but do not sow Corn, Bush Beans, Lima Beans, Cucumbers, Melons, and similar plants, until the ground and the weather become settled warm, except they are protected by hand glasses. Cabbage, Cauliflower, Lettuce, etc., may be transplanted from cold frames. Hot-beds should be aired freely, and the plants hardened off and transplanted, keeping Cucumbers, Melons, Peppers, etc., till the last. Bean poles, Pea brush, etc., should be got ready, if not already done. Fork over Asparagus beds, and dig up the alleys. Sea-kale should be earthed up or covered with pots. Rhubarb is all the better for being blanched by covering with a barrel with both heads out. We judge that little will be done in the way of sowing seed this year much before the middle of April.

EDITOR'S TABLE.

To Contributors and Others.—Communications, Letters, Catalogues, Periodicals, Remittances, Packages by Express, Advertisements, &c., should be directed to Mead & Woodward, Editors and Proprietors, 37 Park Row, New York. Exchanges should be addressed to "The Horticulturist."

Seeds, Etc., Received.—We are indebted to the following friends for seeds. They will please accept our thanks, with the assurance that they will be well cared for and thoroughly tested. From Messrs. Fleming and Davidson, seeds of some choice

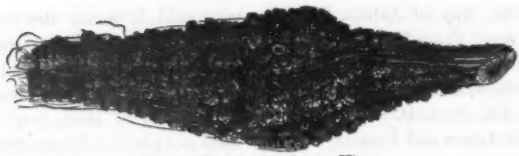
novelties in the way of Asters, Pansies, Calceolarias, &c. From Mr. Dreer, seeds of the Cook's Favorite Tomato, as well as some novelties, such as Godetia, Solanum, Datura, &c. From D. K. Bliss, seeds of choice new Asters and Pansies. From Mr. Buchanan, seeds of his blotched and striped Petunias. From Mr. Hogg, seeds of the Yokohama Squash.

A New and Peculiar Orchid.—We lately found on our table a neat little box, inscribed, "An Orchid of a new and rare kind, flowered for the first time specially for" *us*. Being rather fond of Orchids, and, withal, at least in this instance, a little curious, we opened the box very carefully, and, sure enough, there was an Orchid of a very peculiar kind. In form it was symmetrically angular, and of a fine and delicate texture. The color was pure and "white as the driven snow." The flowers of Orchids are remarkable for their grotesque and beautiful forms, resembling butterflies, doves, &c., and in the flower of this, with a little aid from the imagination, might be seen something strongly resembling our own initials, very beautifully and delicately formed. We were delighted, and resolved at once that this Orchid should have a warm and sunny place in our heart-house. We hope never to wet it except with tears of joy, and wish that such may fill the eyes of our unknown friend all the days of her life. We thank her most sincerely for the *Orchid*, and the delicate hint which it conveys—to keep our nose clean!

The Prairie Seedling Potato.—This is a new Potato that originated at the West. It was raised from seed by Mr. Moseby of Illinois. Mr. W. Shotwell having brought it to notice there, it was called the "Shotwell Potato." Mr. Henry R. Shotwell, of Rahway, N. J., having received it without name from his relative, called it the Prairie Seedling; and thus, unfortunately, it is now known under two names. Mr. Shotwell sent a small quantity of it last season to Mr. Alfred Bridgeman of New York, who sold it under the name of Prairie Seedling. Our readers will now understand that the Shotwell and Prairie Seedling are one and the same thing. We grew some of them last season. They were not planted till the 28th of May, and were not well cared for; but the yield was large and very fine. The tubers were also large, and the quality very good; so good, that we wish we had enough to plant a couple of acres. Mr. Shotwell, we believe, has sent Mr. Bridgeman a lot for sale, so that those who wish can give them a trial.

The Turban, or Turk's Head Squash.—We have to announce the appearance of another new Squash, introduced from France, and made better known by Mr. Gregory, of Marblehead, Mass. It is called the Turban or Turk's Head Squash, of which we herewith present a portrait. It

is different from the old squash of this name, which has for many years been grown as an ornament. Very fine specimens were shown in New York last fall. It weighed about seven pounds. The flesh is dry, fine grained, and sweet, with a rich flavor. It is mostly prized, we think, as a fall squash. Those who have used it as such pronounce it to be first rate, and it is no doubt an acquisition. Thus, with the Yokohama, Turban, and Hubbard, we can have the best of squashes all the year through.



Black Knot in the Grape Vine.

The "Black Knot" in the Grape Vine.—Last fall a friend brought us two or three shoots of a vine, to learn what was the matter with them. On examination we found them to be affected with a "black knot," which seems to be identical with that found on the Plum and the Cherry. We can not discover the least difference, and have no doubt that both owe their origin to a similar cause. We have prepared an engraving of it, that the reader may judge for himself. We wish our friends engaged in grape culture would examine their vines during the coming season, and send us specimens *as soon as they are formed*, should they unfortunately have any.

A new Horticultural Society for New York.—A society is now in process of formation, to be called "The Horticultural Association of the American Institute." We are not prepared to give particulars, but we hope the project will be fully and successfully carried out, that New York may no longer be reproached with being without a horticultural society. The enterprise has our hearty endorsement. We shall allude to the subject again at the proper time.

A New Work on Fruits.—We learn that Mr. Le Roy, of Angers, France, is engaged in the preparation of a new work on Fruits, which will embrace the history and description of all fruits which have been known in France since the tenth century. It will make about six volumes, and its arrangement will be similar to that of Mr. Downing on the same subject.

The Brooklyn Sanitary Fair.—This, we are glad to know, has been a great success, the receipts having been upward of $300,000. Our horticulturists were not wanting in spirit, Dr. Grant alone having presented $400 worth of grape vines. We hope that they will do even better in New York.

A Word to Mr. Knowlton.—In a card to which our attention has been called, Mr. Knowlton says: "The earlier numbers of Mr. Mead's 'Hints on Grape Culture' I never saw, and only read his latter ones hastily." "I wrote the work of which he complains entirely at my office table, without any work of reference to direct or guide me."

This is all of the card that is of the least moment. We have the best of evidence that Mr. Knowlton had most, if not all, of the early numbers of the "Hints," and his work affords additional internal evidence of the fact. Such idiomatic phrases as "snap and crack a little," "safety valves," and others, do not come by accident. The inference is, that, if Mr. Knowlton did not consult the "Hints" while writing, he previously read them so thoroughly as to get the ideas well stored in his mind. But the fact is, that the whole idea of the reversed arms and safety valves was taken from the "Hints," and nowhere else. Mr. Knowlton's whole description of the process, as well as the words used, shows this plainly. We do not know that we should have complained of this, even though no acknowledgment is made; but he sums up by calling it "*our* (his) system." Now we have nowhere in our "Hints" laid claim to any originality, and where we have used the illustrations or labors of others, we have first obtained permission to do so; but at the proper time we shall claim some small share of originality in the reversed arms and safety valves, having introduced them some

twenty-two years ago, previous to which time we doubt whether Mr. Knowlton will find any evidence of their existence. Be this as it may, Mr. Knowlton, in writing his work, had before him the evidence that the system had been publicly described, and he therefore had no right to call it "his." He pretends to know more than we do, and we shall not stop to dispute it; does he not know, therefore, that, if his directions about the safety valves are carried out, the vines, in nine cases out of ten, will be ruined? But we have neither the time nor the disposition to multiply words or bandy personalities with Mr. Knowlton; and as to being "jealous" of the appearance of his work, we beg him to spare us, for nobody in the world but himself would ever suspect such a thing.

CATALOGUES, &c., RECEIVED.

C. W. Grant, Iona, near Peekskill, N. Y.—Illustrated Catalogue of Vines.—This has been greatly enlarged, and many superb engravings added, so that it is now rather a manual for the grape grower than a catalogue, and the best thing of the kind issued, containing instructions for the treatment of the vine in all its stages. It is sold for 15 cents.

Transactions of the Indiana Horticultural Society, at its Third Annual Meeting, held at Indianapolis, Jany. 5–7, 1864.

Agricultural Department. — Bi-Monthly Report for January and February, 1864.

Andrew Bridgeman, 878 Broadway, New York. — Descriptive Catalogue No. 8, French Hybrid Gladiolus, and other Summer and Autumn Blooming Bulbs.

J. M. Thorburn, & Co., 15 John Street, New York.—Annual Descriptive Catalogue of Flower Seeds, &c., with a list of 115 varieties of French Gladiolus and other Spring Bulbous Roots.

Robert Buist, Jr., 922 and 924 Market Street, Philadelphia.—Catalogue of Select Roses.

J. A. Bruce & Co., 52 King Street, Hamilton, Canada West.—Catalogue of Seeds for the Farm, the Kitchen Garden, and the Flower Garden, &c.

Robert Buist, 67th Street and Darby Road, Philadelphia.—Select Catalogue of Greenhouse, Hot-house, and Hardy Plants.

James J. H. Gregory, Marblehead, Mass. —Retail Catalogue of Garden Vegetable Seeds.

Charles Davis, Jr., Phillipsburgh, Warren County, N. J.—Price List of Fruit and Ornamental Trees, Grape-vines, Shrubs, &c.

James M. Mattison, Jacksonville, Tompkins County, N. Y.—Descriptive Catalogue of Fruit and Ornamental Trees.

Correspondence.

Reading, Mass., Jan., 1864.

DEAR SIR: I have a trellis on the south side of my wood-shed, fourteen feet wide, and eight feet high. In the middle of it I have a Delaware vine, two years planted, which last year sent up a cane about fifteen feet long and half an inch in diameter at the base. I cut it back in the fall to about four feet, intending to take the arms at that distance from the ground. If it should this year form two canes of sufficient length and size, would it answer to extend them seven feet each way to the extremity of the trellis? Or should I make the arms at first only three or four feet, and extend them more gradually? Or would you advise extending the arms of the present vine only three and a half feet each way, and planting another at each end of the trellis, to be grown with a single arm three and a half feet towards the center? And, having in one of these ways provided for the *upper* four feet of the trellis, would there be any objection to planting two more vines, on one each side of the present, and midway between it and the end of

the border, to cover the *lower* four feet? As my present vine has grown so vigorously, would not the space allotted to the others (four feet by seven) be probably found too contracted? And if not, would two Ionas answer as well as two Delawares? Or one Iona and one Israella? Please give a tyro the benefit of your wisdom and experience.

My Rebecca (of which so many complain for tardiness of growth) has done splendidly. The first year it grew about eleven feet, and the cane was as large as one's little finger. Last year it made full thirty feet, (two canes,) and the wood considerably larger. I kept the laterals well pinched in; but three or four of them, that were less carefully watched, for they were beyond where I intended to cut the canes for arms, seemed determined to do something in spite of me, and so *blossomed and set three or four bunches of fruit in July.* And these were on laterals that sprung from wood of the same season. Is not this quite unusual? In making the border I dug in a large lot of hickory nut-shells. Can these have had any thing to do with such an unusually vigorous growth?

I am satisfied that the original constitution of a plant has more to do with its growth than most suppose. This Rebecca, as well as the Delaware, were purchased of Dr. Grant, and were vigorous plants at the outset. But I have another Delaware, bought elsewhere, which I have petted and nursed now for *five years*, and it has borne no fruit, and been nothing but an invalid from the first. Last year I thought it was going to die outright. It probably will never make such a vine as the first.

W. H. W.

[Your questions are very clearly put. Your best plan is the last one suggested, for which you have ample room. If your first plan were adopted, it would be necessary to form the arms two or three feet at a time; but arms of seven feet are too long for uniform productiveness. In a few years the spurs near the trunk would fail. We would advise you, therefore, to plant additional vines. Put the Delawares at each end of the shed, and the Iona and the Israella midway between. The latter would then fill the lower course, and the Delawares the upper course. This would be an excellent plan, and afford you much gratification. We are glad to hear that the Rebecca has done so well with you; for it is a very nice grape when well grown. You no doubt had a good vine to begin with; and you seem to have planted it properly in a well-prepared border. If *all* these conditions generally obtained, we should hear of fewer failures. It is not quite unusual for fruit to set on the laterals; but it seldom or never ripens. It is quite probable that the shells had something to do with the growth of your vines. If they acted in no other way, the shells would keep the border open and porous, and thus favor the growth of the vines. If that Delaware has been an invalid for five years, we should consider it past recovery, and give it a decent burial.—Ed.]

Editor Horticulturist:

I wish to plant a small vineyard, in South Central Ohio; soil sandstone, high; no muck on any place near. Can I succeed?

At a distance from any large city where the finest productions are apt to be appreciated, had I better plant Delaware, or some variety which will bear more weight of fruit, and be more showy, though the quality may be inferior? And if so, what variety or varieties?

The fruit will be mainly for market.

A friend is quite partial to the brisk flavor of Catawba—prefers it to Delaware even. Can you name some more reliable variety, of similar flavor, and as good, or better, for the table? Your grape articles have given me more light than all I ever read on the subject before. Hasten out your *book*, for at least *one* of your subscribers is hungering for it.

R. J. B.

[We would advise you to plant the Delaware. You will have something equally

good for wine and for the table, and will not always be dependent upon the market. As a substitute for the Catawba we should recommend the Iona. For early grapes, we would name the Israella and Creveling, as being the best two early grapes that we have had long enough to test. We think, too, that that the Diana would do very well with you. We have no doubt that you can succeed. In the absence of muck, gather all the leaves you can get, and use them freely in your compost heap. We are glad to know that you have found instruction in our "Hints." The book is going on.—Ed.]

Nauvoo, Ill., Feb. 15, 1864.

Mr. Peter B. Mead:

Dear Sir: I fear that the wine crop of the United States this year (California excepted) will prove a very poor one, the fruit having been killed by the terrible cold storm at the commencement of the present year. The Catawbas, Isabellas, Dianas, Rebeccas, and even the Hartford Prolifics, which I hoped could stand cold weather better than almost any other kind, seem to be entirely dead, as high above the ground as they were bare, and not covered with snow. There are several other sorts equally as badly hurt, and there are none of whatever kind that have not suffered a great deal.

Those that seem to have suffered the least, and of which some grapes may perhaps be expected, are the Delaware, Concord, Clinton, and some of the Norton's Virginia Seedling. The Logan and some of the To-Kalon also appear to have a few sound buds, but of even all these sorts, none are without a very severe touch of hurt from the intense cold. Each bud, as you know, contains from two to four eyes or buds; the center one, which is the best fruit-bearing, is dead, even in the hardiest kinds; but in the Delaware, Concord, and Clinton many of the buds contain still one or two sound living eyes or buds. Those who took the trouble last fall, and buried their vines, may congratulate themselves, for their prospect is promising; there are, however, very few who took that precaution, because in former years the laying down business proved not to be always the most profitable. Of the Delaware, we made last fall, for the first time, three gallons of wine, and I acknowledge that it did not meet fully with my expectation, though some others who tasted it seem to be of somewhat different opinion. It may be that my taste is, as the proverb says, not sufficiently cultivated; still it appears to me as if I had been tasting a great many different good things in my life, generally without differing very far in opinion with others. A gourmand or epicure would perhaps differ with me, if I say that a well-prepared piece of beefsteak is better than a dish prepared from the contents of the entrails of snipes, or if I should say that I prefer a good piece of roast beef to a dish of shrimps; but I believe, however, that a great majority of jurors who would be able judges about good things to eat, would take my side in these questions. So far as I am acquainted with the Delaware, the grape, though small, pleases me very well, and because it begins to prove to be very steady, and the vines grow to a better size than what I expected. It would appear even more recommendable but for one fault it has—its unhealthy, shriveled, wrinkled leaves, which are far from pleasing. The Concord appears to be at least equally hardy as the Delaware, in quality of the grape (and superior to it in the leaves) possibly not fully as good, but nevertheless a large and beautiful grape, and of good quality when perfectly ripe. How it will be as a wine grape, I can not say, by my own experience, but what I have heard of it out here West, it makes a very pleasing wine, if not so strong as the Norton's Seedling. I shall plant it without hesitation. I hear that our Congress intends to tax native wine at twenty cents per gallon, instead of, as it was justly expected, to release it from the present five cent tax. It would be fully as just to tax our corn, wheat, potatoes, apples, etc., as to tax the native wine. Who-

ever has been in the wine-raising business must know how great the expenses and outlays are, ere profits can be earned from it. There may, perhaps, be a few years when many grapes may be raised, and some profit made, and the prospect for a new crop may be promising, but some unexpected, severe atmospherical changes will certainly take place, and all the hopes of a grape crop are gone; but the outlays and trouble are still nearly the same, the capital invested in trellis-work, wine cellars, casks, vats, wine presses, etc., are there, and are assessed as usual, and taxes have to be paid for all, and what advantage are such property and improvements to the owner? It is worse than a dead capital, because the owner of such property has to pay taxes for a thing which is then of no advantage to him. Such a tax would almost prove a death-blow to the wine-raising business, instead of what ought to be encouraged, and I hope that Congress will consider the matter well ere they pass an act which probably would destroy a branch of industry in its youth, which otherwise would probably one day be a benefit to the country. Mr. Editor, excuse my lengthy letter, for I give you the promise, not to trouble you again very soon, unless necessary.

Respectfully yours,

JOHN H. LIENHARD.

[We regret very much to hear of the destruction of your vines. We have similar accounts from others, and fear the worst. In your climate, it would prove a great protection to lay the vines flat on the ground, if you do not wish to take the trouble to cover them. Did it occur to you that the poorness of your wine *may* have been in the making, and not in the grape? We have tasted Delaware wine made by Mr. Mottier, and it was by far the best American wine that we have seen. It sold for $24 a dozen when Catawba was selling for $10. This price was paid by persons who know what good wine is. We think Congress will make a great mistake in laying such a heavy tax on native wines. It is a branch of domestic industry too young yet to bear it. We do not care if they lay a tax of one hundred per cent. on adulterated wines, but we hope the *pure* article may be spared.—ED.]

In the Jan. number of the HORTICULTURIST, I see an article on heating by hot water, by J. Fleming, which is very good, and in which he says that, if the flue is built on the "Dingwallian" principle, it may be made to answer the purpose very well. But I would suggest an improvement on that; for when the flue is long and the weather mild, or damp and calm, even the "Dingwallian" principle will not save you, when you first start or build your fire; for the brick will conduct the heat from the smoke and air in your flue faster than the fire will produce it; and it is well known that when smoke or carbonic acid is as cold as the surrounding air, it is heavier, and will not rise up through the upright flue or chimney, and the result is, a smoky house. Now, my improvement is to make an opening at the base of the upright flue, so as to allow you to build a fire, and then do so (when the weather is damp) before you build a fire in the arch. Then shut up the opening and build a fire in the arch, and when the smoke from the arch reaches the upright, the fire at the base of the upright will warm the smoke, so that it can ascend, and also produce a draft, by the heated air and smoke producing a vacuum by the ascent, and by the time your fire is burned at the base of the upright, your horizontal flue will be warm, and then your trouble is over.

Yours truly, J. CRAINE.

Lockport, N. Y.

[The trouble alluded to by Mr. Craine is often experienced where flues are used. His remedy is a simple one, and easily applied. When the draught is established, it will usually take care of itself.—ED.]